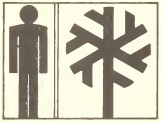
# Backcountry Management Plan

## Sequoia & Kings Canyon



NATIONAL PARKS / CALIFORNIA

1986

# BACKCOUNTRY MANAGEMENT PLAN

## SEQUOIA AND KINGS CANYON NATIONAL PARKS

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National Parks
Western Region
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Department of the Interior
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Recommended By: _____ Date MAR - 6 1986
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ABSTRACT

More than 90 percent of Sequoia and Kings Canyon National Parks is "backcountry," lying beyond the roads and developed sites and accessible only by trail on foot or with pack and saddle stock. The goal of managing this "backcountry" wilderness is to provide for enjoyment without significantly impairing park resources, the natural processes which shape them, or the quality of experience distinctive to them. This plan replaces the Backcountry Management Plan, 4-27-76, bringing together the practices that have continued as described in it, and those that have developed in the years since 1976.

The Plan discusses the approach to backcountry management necessary for achievement of the above goal, and provides an overview of the facilities and resources in the backcountry. The plan also describes the management objectives for various activities in the backcountry and the policies and actions required to implement them.

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## 1. INTRODUCTION

The natural resources of Sequoia and Kings Canyon National Parks are outstanding examples of Southern Sierra ecosystems. They include the highest and most rugged portions of the Sierra Nevada. Elevations range from 1,400 feet to the summit of Mount Whitney which, at 14,494 feet, is the highest point in the contiguous 48 states.

Vegetation varies from open savannah and chaparral on the foothill slopes (Baker et al. 1981; Hanes 1977) upward through forests of ponderosa pine and giant sequoia, red and white fir, lodgepole pine, mixed subalpine, and foxtail pine (Vankat and Major 1978, Rundel et al., 1977) to the plant communities of mountain crags, alpine meadows, and boulder fields (Major and Taylor 1977, Benedict 1981). Numerous lakes and streams are also characteristic features of the higher elevations.

The California Wilderness Act of 1984 (September 19, 1984) designated 736,980 acres of Sequoia and King Canyon National Parks as Wilderness. Approximately 35,500 acres in the Redwood Mountain/North Fork of the Kaweah and 56,250 acres on the Hockett Plateau remain as proposed wilderness, and will continue to be managed as such.

Sequoia and Kings Canyon National Parks were designated as an International Biosphere Reserve on October 10, 1976 by the United Nations Educational Scientific and Cultural Organizations Programme on Man and the Biosphere. As such the Parks are recognized as a part of the international network of Biosphere Reserves. This network of outstanding protected samples of the world's major ecosystem types is devoted to conservation of nature and scientific research in the service of man. It provides a standard against which can be measured the effects of modern man on the environment.

### 1.1. Natural Resource Management

Unique ecosystems require special management attention. The Parks' Revised Natural Resource Management Plan and Program (January 1986) address in detail management objectives, policies, and actions which provide protection, study, and evaluation of the health of the various park resources and natural ecosystems. Special attention in the Plan is provided to:

--Soil and vegetation, with emphasis on rare, endangered or threatened plant species, hazard tree management, exotic plants, plant disease, and meadow protection and management..

--Fish and wildlife, including the rare California bighorn sheep and wolverine, the threatened Little Kern golden trout, and the endangered California condor and peregrine falcon, which have been observed here. Black bear and mule deer are common larger forms of wildlife.

--Air and water quality, with emphasis on monitoring water quality, as it is affected by visitor use, and air quality and its effects on aquatic and

terrestrial ecosystems. A significant study program is now underway that will evaluate the effects of acid deposition on Park ecosystems; the influence of ozone on important tree species is also being studied.

--Fire, which through a separate fire management plan, is being reintroduced in the Parks' ecosystems. (Fire Management Plan, April 1984 Revision)

--Cave resources, which will be managed through a separate plan to be developed that will identify limits on the timing, amount and types of activities allowed.

1.2. Cultural Resource Management

Within the backcountry are many unique cultural and historical resources including remnants of prehistoric nomadic Indian tribes, artifacts left by early explorers and settlers, cabins built and used by early park employees, etc. For hundreds of years, the wild reaches of the Parks have drawn people who have left behind reminders of interesting and colorful histories, in the structures and artifacts now found throughout the Parks (Strong 1964).

All of the artifacts and historical structures are protected by law (16 U.S.C. 470aa-11) and regulation (36 CFR, 2.1) and may not be disturbed, collected, or in any way damaged by park visitors. A Cultural Resource Management Plan was completed in March 1982, which provides guidelines for the protection and management of the cultural resources in the Parks.

2. OVERVIEW

2.1. Use

Backcountry use increased dramatically from 72,446 use nights in 1969 to 220,852 use nights in 1974, then dropped to 162,320 in 1977. Use nights have generally increased since 1977 to 202,663 visitor nights in 1984. In recent years the average stay per visitor has been about 4.3 nights and the average party size has been between three and four (Parsons et al. 1982). Over 95 percent of the use occurs between May and November, with the heaviest use occurring in August. Use is mostly confined to the major trail corridors; the most concentrated use is in the Mineral King area of Sequoia National Park. Areas showing significant signs of user impact include, but are not limited to, the Rae Lakes loop (Parsons 1983), Kearsarge Lakes, Paradise Valley, Hamilton Lake, Emerald/Pear Lakes, Twin Lakes (SEQU), Dusy Basin, Woods Lake, Guitar Lake, Crabtree Meadow, and the Mineral King basins (Parsons and Stohlgren, in preparation).

Much of the backcountry is under snow during the winter months. Winter use activities include cross-country skiing, snowshoeing, winter camping, and winter mountaineering. Although the number of people using the backcountry during the winter is small, it is increasing annually. In 1978, an estimated 600 people stayed overnight during the winter. The 1983 estimate

shows 1,150 visitor nights during winter months. The 1985 estimate shows 557 visitors spent 2,161 nights on winter trips. Winter crossings of the Sierra and winter trips along the John Muir Trail are also increasing. Over 150 people crossed on the High Route in 1985. In addition, approximately 296 people used the Pear Lake Ski Hut, 30 visitors spent 300 visitor nights on the John Muir Trail, and 75 visitors spent 375 visitor nights in other areas of the backcountry. Winter use and its effects will be monitored, to help assure prompt response with such measures as may be required to protect resources and the quality of visitors' experiences.

### 2.2. Facilities

Facilities in the backcountry include trails, bridges, campsites, signs, ranger stations, resource monitoring and research devices, and toilets. Facilities are limited to those necessary for administrative activities and visitor use, to produce as little conflict as possible with visitors' wilderness experience.

Travel routes range from well-maintained primary trails to abandoned trails and cross-country routes. There is a total of 670 miles of maintained backcountry trails. A 120-mile section of the John Muir Trail runs north and south through the Parks, and is a part of the Pacific Crest Trail, a component of the National Scenic Trails System (P.L. 90-543).

There are now only four backcountry areas in which camping is restricted to designated sites--Pear Lake, Emerald Lake, Paradise Valley and the Bearpaw enclave. Designated sites may be necessary in the future at some of the more heavily used areas of the backcountry. Many sites have been informally established by visitors near lakes, meadows, and streams.

### 2.3. Adjacent Land Use

Sequoia and Kings Canyon National Parks are surrounded by three National Forests (Sequoia, Inyo, and Sierra), private lands, and Bureau of Land Management lands. The Parks are almost surrounded by designated Forest Service Wilderness; John Muir on the northwest, north, and east; Golden Trout on the south; and the recently established Monarch and Jennie Lakes on the west. Management of recreational use of these adjacent lands is generally consistent with park backcountry management. Close coordination is required with the U.S. Forest Service since many of these Parks' backcountry users reach the Parks through National Forest land.

## 3. BASIC PREMISES OF BACKCOUNTRY MANAGEMENT FOR SEQUOIA AND KINGS CANYON NATIONAL PARKS

### 3.1. The Goal

The goal of management is to provide for visitor enjoyment of the Parks in ways that do not result in significant impairment of park resources, or severe disruption of the natural processes which shaped them, or seriously intrude on the quality of experiences associated with those resources. The

impact of man and his technology must be kept at a minimum; management will do only what is necessary to meet backcountry management objectives and use only the minimum tools required to achieve those objectives. No recreational use of mechanized equipment is allowed on back- country lands or waters.

3.2. Philosophy

The overall management philosophy includes the following:

-Establish maximum use levels that keep resource impacts within acceptable limits (Parsons et al. 1981, Parsons 1986).

-Provide opportunities for visitors to enjoy a variety of backcountry experiences, keeping regulatory restrictions on backcountry visits at a minimum, and allowing as much freedom as possible.

-Manage use to achieve a range of visitor densities, from the relatively social experience afforded by historically high use areas to the great solitude that is found in the most rugged and remote areas.

-Require visitors to follow procedures that will keep impacts to park resources and other visitors to a minimum. Information, education, and interpretation will be primarily directed at achieving visitor understanding, support, and compliance.

-Conduct research on park natural resources that can be used by management to assure that natural processes continue unimpaired. A basic inventory of natural resources, a strong natural resource monitoring program, and scientific study of user and other external impacts on resources are essential to good backcountry management.

-Maintain the network of backcountry trails that have been maintained in recent years.

-Provide an adequate but unobtrusive sign program for backcountry trails, using materials and design appropriate to the backcountry setting.

-Allow for use of pack and saddle stock by visitors and park work crews within limits that will not seriously impair resources or the quality of visitor experience.

-Allow commercial guide services as appropriate for visitors who prefer this type of backcountry trip. Commercially guided trips will be regulated to avoid eliminating those who can't afford, or prefer not to use, such services.

-Allow only such structures as are necessary for the purposes of administration and historic preservation. Those will include existing ranger stations, historic cabins, snow survey cabins, radio facilities, old

dams, Bearpaw Meadow Camp, snow course markers and telemetry devices, toilets, and research facilities.

-Allow administrative use of the backcountry to the extent necessary for maintenance, visitor protection and information, natural resource management, research and general management purposes. All administrative use will make every effort to keep imposition on visitors to a minimum, and must lead by example in natural resource protection.

-Develop a process for update and/or modification of the Plan to incorporate new information made available through the research and monitoring program. The process may include opportunity for public review and comment if substantial change in regulation appears necessary.

## 4. VISITOR USE

### 4.1. Management Objective

To provide recreation featuring the opportunity for pastimes for which it is important that there be solitude, physical and mental challenges, and an environment where one depends on one's own abilities and knowledge are important. Use will be managed to keep impact on the resource and visitor at an acceptable level.

### 4.2. Management Policies

-Daily quotas have been established and may be periodically adjusted for each trailhead using the QUOTA computer model (van Wagtendonk and Coho 1984). Interior zone carrying capacities, based on existing impacts, historical use levels and the ability of local resources to withstand increased use are translated into trailhead quotas (Parsons 1986). The quotas establish a maximum number of persons that will be allowed to start from each trailhead each day. Trailheads contributing use to the Parks, but located on Forest Service land, are administered by adjacent national forests. In such cases, the quotas combine use destined for these Parks and the local Forests into one value so that neither area's capacity is surpassed. Trailheads that feed historically low use travel zones will have low daily quotas, to maintain the array of options for enjoyment referred to in part 3.2., paragraph 3. Trailhead quotas are listed in Appendix A.

-Wilderness Permits are required for all overnight trips into the backcountry, one permit per group per trip, and must be picked up in person at the issuing station nearest the point of departure.

-Wilderness permits will provide the primary source of visitor use information (Parsons et al. 1982). They will be tallied monthly for the number of visitors and visitor nights spent in the backcountry. The travel zone information on the permits should be summarized and evaluated at least once every five years.

-Reservations will be taken for a portion of the daily quota for each trail. The specific portion to be reserved for each trail will vary due to available camp space in the areas served by the trailhead, popularity and normal use levels, trip route proposals, etc. Occasionally a group will ask to reserve the entire quota (historically less than 1% of the total trips). Depending on the nature of the request and the characteristics of the area this may be allowed and an override be granted for walk in visitors. Reservations will be accepted from March 1 through September 15 at the Sierra District Office, in person or by mail. Reserved permits may be picked up no more than 24 hours prior to the trip. The non-reserved portion of the daily quota (and the occasional override) will be issued the day of departure at the permit issuing stations on a first-come, first-served basis. The proportion of permits reserved compared to those available at the trailhead may be adjusted periodically. A fee may be charged for reservations in future years.

All commercial guide service operators including commercial packers operating from bases in the parks must obtain a permit reservation in advance of trips to be taken. On days that the trailhead quotas are full the commercial pack station operator may override the quota for that day since the quotas are structured with the commercial pack station use included. Commercial pack stations operating from outside the Parks will continue to operate through permits granted by the Forest Service as in the past.

-Maximum group size for trips traveling in the backcountry is 25 people. Some trails have a maximum group size of less than 25 depending on trailhead quota, openings available for advance reservations and the area served by the trail. Trailhead quotas and maximum group size for each trail are listed in Appendix A. Group sizes and number of stock per group are subject to adjustment periodically after public review.

-Annual visitor use summaries will be prepared.

## 5. RESOURCE PROTECTION REQUIREMENTS

### Management Objective

To allow recreational use and enjoyment of the backcountry to occur in such a manner and by such means that the Park resources are preserved and visitors may continue to enjoy these values both now and in future generations.

### 5.1. Fires

#### 5.1.1. Management Objectives

To reduce, mitigate, or eliminate the effects of recreational use of fires (camping, cooking, warming, etc.) on Parks resources and the natural scene as viewed by the visitor.

-In areas where wood is rare or ecosystems endangered, wood fires will not be allowed. (See Appendices D and E.)

-In areas closed to fires Rangers will obliterate old fire sites by scattering rock ring fire pits and any unused firewood. Natural processes will be allowed to restore the area.

-Areas where fires are allowed will be monitored. When use begins to exceed natural accumulation of dead material, according to data developed from the campsite monitoring program, or where other serious ecological or visual impacts are documented, the area will be closed to fires. Media announcements, permit attachments and signs will be used to inform visitors of all closures.

-Use of gas stoves, particularly for cooking purposes, will be encouraged for all areas.

5.2. Fish and Wildlife

5.2.1. Management Objectives

To maintain, in a wild condition, the natural distribution and abundance of fauna by allowing natural processes to shape habitat and interactions among species. The Natural Resource Management Plan provides full detail on fish and wildlife management objectives, policies and actions.

5.2.2. Management Policies

-Fish stocking by aircraft will continue in seven designated lakes in the backcountry. This is the same level that was established in 1974. Other lakes and streams in the Parks will not be stocked. This will result in some lakes in the backcountry being barren of fish.

-The numbers of fish taken and type of lures or bait allowed will be established from time to time and at various locations in the Parks in cooperation with the California Department of Fish and Game.

-California bighorn sheep will be reestablished, if feasible, on their former ranges in cooperation with the California Department of Fish and Game and the United States Forest Service. Ewe/lamb range will be closed to use because of the sensitivity of the sheep to disturbance during this phase of the reproductive cycle.

-To protect native wildlife, hunting, dogs and firearms are not permitted in the backcountry.

## 5.3. Campsites

### 5.3.1. Management Objectives

To reduce, eliminate or mitigate the effects on Park resources that result from camping activities.

### 5.3.2. Management Policies

-Campsites should be primitive. Free selection of campsites is permitted except in those areas in which impacts have been excessive, or where they violate other conditions listed in this section.

-Campsites should consist of an area for sleeping and, where allowed, one small rock fire ring per site.

-Where terrain permits, campsites should be a minimum of 100 feet from water, trails, or meadows. In no case should they be less than 25 feet from such features. Rangers will remove and/or rehabilitate all sites in meadow vegetation, or closer than 25 feet to water. The replacement elsewhere of obliterated sites may be necessary in some areas.

-Development of new campsites and rock fire rings is discouraged.

-Camping limits: In areas where demands for visitation exceed the capacity, one or two night limits may be imposed (Parsons 1983). Appendix B lists camping limits for areas within the backcountry.

-Designated Campsites: These will be used only where suitable terrain for campsites is limited, or where closer control of impacts is necessary. Designated campsites are listed in appendix G.

-Large group sites: These will be designated in areas that are traditionally popular with large groups and/or show a high potential for impact if used by large groups without such restriction.

Camp areas with a majority of sites too close to water (less than 25') may be closed or moved to aid campsite recovery. This has been a successful management strategy at Eagle Lake and Hockett Meadow.

## 5.4. Sanitation

### 5.4.1. Management Objectives

To prevent or mitigate the biological and esthetic effects that result from the disposal of human waste.

5.4.2. Management Policies

-Where soil cover is adequate to accommodate disposal of human waste, the individual "cat hole" will be used. In certain heavy use areas, pit toilets have been installed.

-Areas where human waste problems occur will be identified. Use of pit toilets in these areas will be reviewed by the Environmental Management Committee which will make recommendations to the Superintendent. The alternative of reduced levels of use will be considered.

-A "pack it out" policy for litter will be stressed at permit issuing stations, and in the procedures followed by NPS personnel. Backcountry Rangers and trail maintenance crews will conduct an ongoing cleanup of all areas. Litter will be bagged and packed out.

5.5. Sequoia Groves

5.5.1. Management Objectives

To perpetuate one of the Parks prime resources through special attention to the visitor activities that have potential for adverse effects and to establish controls that either eliminate or mitigate that effect.

5.5.2. Management Policies

-The sequoia groves must be protected and perpetuated. Many groves are prime scenic day use areas, while others are backcountry groves with little visitation. Camping will be allowed in backcountry groves, but not in day use groves. (See Appendix D.)

-Campfires will not be allowed in backcountry groves where excessive fuel accumulation exists. Excessive fuel determinations will be made according to standards in the Fire Management Plan. Campfires may be allowed in groves where fuel accumulation is not excessive. (See Appendix E., and Fire Management Plan).

5.6. Special Use Restrictions

5.6.1. Management Objectives

To keep the effects of visitor use on resources to a minimum.

5.6.2. Management Policies

-Pets are not allowed in the backcountry.

-Visitors are required to keep their food from bears. This will keep bears from becoming accustomed to obtaining human food and therefore retain their dependence on natural food sources. It will also keep visitors from having to cut their trip short due to bears having taken and or destroyed their

food and will reduce the potential for personal injury. Visitors must use either bearproof backpack cannisters, bear cables or bear poles to keep food from bears.

-Stock sites: Sites for stock use may be designated where resource damage and/or conflicts between stock and foot parties can be reduced. See Stock Use and Meadow Management Plan.

-Area closures: Areas that show extreme sensitivity to visitor use (e.g., Bullfrog Lake, Parsons 1979) or that are to be set aside as examples of near-pristine ecosystems may be closed to camping, after appropriate review.

-In order to safeguard the rare Sierra bighorn sheep (Wehausen 1980), portions of the ewe/lamb range within the Parks is closed to entry by foot travelers and pack and saddle stock. Travel is permitted along the route of the now unmaintained Baxter Pass Trail. Foot travel is also permitted over Dragon Pass. Cross-country travel in ewe-lamb range is prohibited. Boundaries of the ewe/lamb range may be altered (see Stock Use and Meadow Management Plan) as additional information is obtained about existing herds or to protect herds as they are reintroduced to their historic range. (See Appendix B.) The success of future planned reintroduction of Bighorn Sheep into other areas of the Parks may require similar restrictions.

-Distance from roads: Camping is not allowed within one mile of any road.

-Camping is generally not allowed within four miles of a developed area or trailhead complex. (See Appendix F.)

-Cutting across trail switchbacks is not permitted.

-An area may be closed temporarily due to situations such as chronic bear problems or severe plague outbreaks.

-Motorized and mechanized equipment such as motorcycles and bicycles are not permitted.

5.7. Winter Use

5.7.1. Management Objectives

To allow for proper recreational winter use and avoid unacceptable resource impacts.

5.7.2. Management Policies

-Safe winter travel, with avalanche hazard and storm forecasting, will be stressed.

-Winter users are required to protect park resources and control adverse effects on other park visitors.

-Winter use will be monitored to determine impacts on resources.

-Visitors wishing to use the Pear Lake Ski Hut can make reservations through the Chief Ranger's Office. The key to the hut and permit are picked up at Lodgepole Ranger Station. The maximum number of people is set at 10 per night.

-Minimum distances from trailheads outlined in appendix F do not apply to winter camping. Because use is minimal each trip will be considered and distances set according to conditions and trip itinerary.

5.8. Stock Use and Meadow Management

Pack and saddle stock use of the backcountry of these Parks is a long established historically and culturally significant traditional use that will be continued with controls that will keep the effects of such use within acceptable limits. Stock will continue to be used to support maintenance and management activities in the backcountry. Stock used by the National Park Service will comply with the same guidelines as recreational stock users.

The Stock Use and Meadow Management Plan, a companion plan to this one, provides full details on the specific policies, procedures and limitations relative to stock use.

5.8.1. Management Objective

A goal of backcountry management in Sequoia and Kings Canyon is to allow recreational use of saddle and pack stock within guidelines that will protect the Parks' natural resources and values, the processes that shape them and the quality of experience distinctive to them. The following objectives for stock use and meadow management provide a more specific interpretation of this goal:

5.8.1.1. Allow--to the extent possible--pack and saddle stock to be used in the backcountry of the Parks on the same areas and trails, at the same levels and patterns that have occurred in recent past years unless information from the monitoring system indicates need for change.

5.8.1.2. Establish controls to protect forage areas from further induced change in plant composition, density, cover and/or vigor, and from increasing adverse effects to soils and associated sod that may lead to deteriorated productivity or unnatural erosion, and to allow recovery where necessary.

5.8.1.3. Minimize the effects of pack and saddle stock on trails, camps, drainage patterns, and water quality.

5.8.1.4. Ensure that a series of meadows (or definable parts of meadows), including representatives of all major types within these Parks, be protected from stock use so that they are perpetuated as--or allowed to

become--natural functioning ecosystems in as near-pristine condition as possible. These meadows will provide an opportunity for all visitors to enjoy seeing representative samples of pristine or near-pristine meadows, and will provide opportunities for scientific study. This includes comparison with meadows that are grazed, so that the relative effects of climate, plant-succession, and grazing may be better understood.

5.8.1.5. Develop and maintain a program of education and participative support for minimum impact stock use, and improved understanding and cooperation between stock users and backpackers.

5.8.1.6. In areas where past use has left an impact on park resources, rehabilitation projects will be considered. An example is the trail rerouting and rehabilitation work done in 1983 at the Siberian Outpost.

5.8.1.7. Establish a monitoring program that will provide continuing information about the effects of pack and saddle stock on the resources of the Parks, so that guidelines may be modified to protect park values or to allow additional use to occur. The monitoring program will take into account variation in annual climate, the characteristics of specific forage areas, and the inherent abilities of the different species to withstand grazing and trampling pressure.

5.8.1.8. Establish procedures to provide for modification of the Plan including benchmarks that signal a need for change and at the same time assure that no significant modifications to this Plan are made without provision for public review and comment.

5.9. Information, Education, and Interpretation

5.9.1. Management Objectives

To encourage an understanding of the significance of the backcountry resources, the activities that are appropriate to them, and the management policies necessary to preserve them. To achieve voluntary visitor compliance with these policies. To achieve mutual understanding and respect between backpackers and stock users.

5.9.2. Management Policies

-All park employees having contact with the public will be informed of management objectives for the backcountry and will communicate them to the park visitor.

-Interpretive media, news media, backcountry rangers, and park information centers will be used to contact the backcountry visitor.

-All printed material will stress the minimum impact philosophy; and these materials will be provided with all wilderness permits. Pack trip concessioners and backpacking guides will receive quantities for distribution to their guests.

-Special emphasis will be placed on informing the public of such things as

--safety hazards
bearproof canisters and bear cables
high water
avalanche conditions
lightning, tree and limb failures, etc.) health hazards

--Emphasis will also be placed on informing the public of the Service policy on stock use as stated in Section 5.7. of this Plan.

5.10. Trails and Travel

5.10.1. Management Objectives

To provide recreational and administrative access that keeps physical and visual trail and resource impact to a minimum.

5.10.2. Management Policies

Trail and bridge construction, reconstruction, restoration, and maintenance will be guided by the standards needed to meet objectives, prevent undue resource degradation, and preserve variety the variety of solitude distinctive to the backcountry of Sequoia and Kings Canyon.

5.10.3. Trails

-Trails will be maintained, relocated or reconstructed to the standards established in the NPS Trail Maintenance Handbook.

-Areas without trails will not be opened by new trail construction. Marking informal trails with plastic ribbons, cairns, or other devices is prohibited. The only exception is use of such trails by Park Management for emergency purposes such as search and rescue and fire management and such flagging must be removed immediately after the emergency is over.

-Trail crew operations will avoid unacceptable impact on the resources and disturbance to the visitor.

-Regular trail maintenance will include the removal of rocks and downed trees, clearing of brush, water bar construction and cleaning, filling of washed-out trails, and bridge repairs and reconstruction in accordance with annual work plans and availability of funds.

5.10.4. Bridges

-Bridges that are in existence will be maintained. No new bridges will be constructed. A list of existing bridges is found in Appendix F.

-Existing bridges can be replaced if damaged and no other alternative is available. Replacement bridges shall, if possible, be of the same type or

of rustic materials that are compatible with the natural setting. Native materials may be used if impacts are minimized and after review by the Environmental Management Committee and approval from the Superintendent.

-All requests for removal of a bridge or for replacement bridges must go to the Environmental Management Committee and Superintendent.

-The need for foot logs will be evaluated on a case by case basis, as mentioned above.

5.10.5 Trail locations will:

-Avoid visitor camp areas. (Trails that are too close to camps will be considered for re-routing on a case-by-case basis),

-Be a minimum of 100 feet from streams or lakes, unless impossible due to terrain limitations,

-Avoid wet meadows and soils subject to constant or prolonged wetness,

-Avoid straight alignment both vertical and horizontal,

-Leave some lakes and other attractions inaccessible by trail,

-Have grade changes designed to provide natural drainage,

-Take advantage of safe fords, and

-Be redesigned, where feasible, to keep maintenance problems and erosion potential to a minimum.

-All trail grades should be adjusted according to parent material and should not parallel slopes on unconsolidated soils. There should be less gradient on unconsolidated material.

-Unless abandoned trails are recommended and approved for reestablishment, only the 670 miles of regularly maintained trails are considered safe and will be signed and marked on maps. Publishers of guidebooks will be encouraged to do the same.

-Mechanical equipment to be used for trail maintenance, construction, and reconstruction will include rock drills, chain saws, shovels, rakes, etc. Trail crews using power tools shall be trained in sensitivity to the environment and the visitor.

-No relocated trail may be constructed or non-maintained trail reopened unless the proposed location and design is reviewed by the Environmental Management Committee and approved by the Superintendent.

-Erosion control will receive the highest priority in trail maintenance. All waterbars will be cleaned and repaired as project work is scheduled for

that section of the trail. New waterbars will be constructed, when needed, from rocks; logs may be used when rock is not available.

-When loose rock is removed from the treadway, it will be put over the edge of the trail on the lower side.

-Trails will be filled to the original surface by removing material from the upper side of the trail - unless the volume of material needed creates a visual impact. Barrow pits will not be dug into the side of a trail or within view of the trail. Material will be obtained from concealed locations wherever possible. Old barrow pits that are in unacceptable locations will be obliterated with logs and natural debris and will be rehabilitated with native plants where appropriate.

-As trails are rerouted, it is the responsibility of the rerouting trail maintenance crews to rehabilitate the abandoned trail tread.

-Trail locations will avoid sensitive plant populations. The sensitive plant report by Norris and Brennan (1982) and Norris (1984) will be consulted before building new, or rerouting existing trails.

-There is a network of trails that are no longer maintained largely due, originally, to lack of funds. In order to provide a more primitive and unconfined type of experience that network of trails will not be maintained in the future except in situations where the system presents a potential source of degradation of the natural resources. The network of unmaintained is outlined in the Stock Use and Meadow Management Plan. Where serious degradation is occurring on such routes the following alternatives will be considered:

-minimal maintenance to correct the problem
-consider rerouting portions or all of the trail
-consider rehabilitation of portions or all of the trail

5.11. Signs

5.11.1. Management Objectives

To provide signs to protect the backcountry resources and for visitor safety where necessary.

5.11.2. Management policies

-All backcountry signs will be routed from one quarter inch aluminum. They will be constructed to the following specifications:

The aluminum stock will be of the brown anodized type as specified by the FPI.

Letters will be no larger than three-quarters of an inch in height and be of the American Standard alphabet.

Letters will be routed through the anodized metal into the bright aluminum interior. The letters will not be painted but allowed to oxidize slowly.

Posts will be 4' long and signs will be 2' high when installed.

-Signs will be provided primarily for visitor orientation. Accurate maps and brochures, which will include descriptions of management expectations for appropriate visitor behavior and activity are available to the backcountry visitor. These brochures and maps should limit the need for additional signs.

-Signs at trailheads will be limited to trail direction and distance signs and interpretive/information signs regarding backcountry behavior, conditions, and regulations.

-Locations of management signs will be chosen for minimum physical impact and esthetic intrusion.

-Signs may be placed at trail junctions, showing directions with mileages and arrows, at restoration sites, and at area/trail closures.

-Signs will not be placed:

In areas where there are no trails except with specific approval by the Superintendent,

On noninventory trails, except with specific approval by the Superintendent.

To identify streams, lakes, mountain peaks, passes or points of interest; or

To provide for onsite interpretation, except at cultural resource sites.

-Signs that are not of the correct design but are otherwise appropriate will be replaced as they deteriorate.

A timeframe for the removal or replacement of non-conforming signs will be established according to the following priorities:

Signs that are inconsistent with the signing objectives will be removed as soon as feasible.

Elaborate signs that are consistent with the signing objective will be replaced with aluminum signs.

Signs of the improper material will be replaced as they deteriorate and as funds are available.

## 5.12. Commercial Operations

### 5.12.1. Management Objective

To provide backcountry visitors with the opportunity for guide service within sufficient controls that the opportunity for visitors to experience the backcountry on their own is not unduly affected. Commercial operations include commercial packers, hiking guides service, winter mountaineering guide service, etc.

### 5.12.2. Management Policies

-The number of commercial stock operations offering backcountry trips will remain at present levels: three in-park, under concession permits; and 12 others operating under other appropriate authorizations.

-The number of hiking, mountaineering and cross country skiing commercial guide service authorizations is not limited at this time. However, the Superintendent may establish a limit on the number of such authorizations in the future.

-In the future the Superintendent may limit the daily number of visitors that may enter individual trailheads with a commercial guide.

-All commercially guided trips must be within the trailhead quotas and permit reservation system.

-All commercial guide service operations will comply with conditions of their permits.

-Bearpaw Meadow Camp will be continued at the present level of accommodations. It will be stock-supported but stock will not be allowed to graze at Bearpaw.

-The proportion of quotas used by commercially guided groups will be continually monitored to assure that visitors have fair access to the backcountry, through either commercially guided trips or do-it-yourself trips.

## 5.13. Land Occupancy and Structures

### 5.13.1. Management Objective

To keep the backcountry free of permanent improvements. Exceptions will be made only for the designated historical structures, existing dams, specified Ranger Stations, and those facilities necessary to protect and monitor the natural resources.

5.13.2. Management Policies

-The ranger patrol cabins will be maintained for administrative use, including use by trail, research, or resources management crews, snow surveyors, etc.

-No new shelters solely for visitor convenience will be permitted.

-Temporary management structures (i.e., for research, surveys, monitoring, etc.) may be permitted for a specified period of time after appropriate environmental analysis and establishment of rehabilitation provisions. Superintendents approval is required for such structures.

-Designated historical structures will be reconstructed and maintained as required. See the Cultural Resource Management Plan for details and list of structures.

-Snow survey courses or stream flow measurement improvements will be limited to the minimum necessary. New telemetry stations will be allowed only as long as they replace existing stations. Portable, modern, snow measuring or stream gauging devices may be permitted on a temporary basis if they are removed from sight during periods of heavy visitor use. Long-term measuring devices may be installed if determined by the Superintendent to be essential to the assessment of potentially severe impacts. Snow survey courses and aerial snow depth markers should be out of view of the visiting public. Others should be made so as to be removed during summer and put back in the fall. Winter snow courses may be marked by orange and black colored metal signs. These markers should be located so they are not visible from trails used during the summer.

-The primary emphasis for keeping human food from bears will be on use of bearproof backpack cannisters. However, bear cables or poles will be used where necessary to provide a means for visitors to make their food inaccessible to bears. The ultimate objective will be to eliminate bear cables and poles in favor of bearproof backpack cannisters.

-The Bearpaw High Sierra Camp will be continued. No additional development there will be permitted, nor will similar camps be established.

-The winter use of the Pear Lake Cabin will continue to be permitted.

-All existing improvements or structures that are not clearly identified for retention or needed for the preservation and management of the backcountry will be removed.

5.14. Administration

5.14.1. Management Objective

To ensure that all administrative uses and activities are directed toward, and consistent with, accomplishing the stated objectives of this Plan.

5.14.2. Management Policies

5.14.2.1. Radio communications are essential to visitor and employee health and safety, law enforcement, management activities, and maintenance functions. Radio communications equipment will be located where it provides the most effective coverage and to the extent possible, where it is least obtrusive to the visitor. Maintenance activities will be accomplished as necessary to ensure the best continuous coverage with strong consideration given when possible to timing and means that have the least adverse effect on visitors and resources.

5.14.2.2. The use of helicopters for emergency operations including fire (both suppression and monitoring of prescribed natural fire) search and rescue and medical emergencies and evacuations is considered appropriate and has categorical approval under this plan from the superintendent. In addition helicopters will be used for other administrative support functions in the backcountry. However, this use will be kept to the minimum necessary to protect park resources and will be managed to preserve the solitude of the designated wilderness areas of the Parks backcountry as required by the Wilderness Act.

It will also be the objective of this plan to reduce helicopter use as technologic advances permit other methods of accomplishing transport in the backcountry of people, equipment and information. An example of this technology is the radio telemetry equipment for snow surveys replaced helicoptering crews in to conduct manual surveys.

Administrative, nonemergency use of the helicopter must be reviewed by the helicopter committee who will make a recommendation to the Superintendent. The Superintendent will make the final decision on this type of use of the helicopter. Requests for use of the helicopter may be in the form of an annual helicopter operations plan or an individual flight request. Divisions that routinely use the helicopter for projects, such as backcountry crew support, should prepare an annual helicopter operations plan.

Details of the administrative management of helicopter operations are found in the Administrative Addendum.

5.14.2.3. Mechanized trail maintenance equipment such as chain saws, rock drills, etc., are essential to effective maintenance of trails and facilities. Such equipment will, to the extent possible, be used at times when it will have the least effect on the wilderness visitor.

5.14.2.4. Cabins are located at various places in the backcountry as needed for backcountry rangers, snow surveys, etc. These cabins will continue to be maintained and used for such activities. Some of the cabins have historical significance and will be maintained to preserve their historic values.

5.14.2.5. Administrative camps for trail maintenance crews, research, resource management, and general management activities are necessary for management and maintenance of the Parks. Some camps are used on a rotational, recurring basis, and others are used on an as-needed basis. Park Service personnel must always comply with regulations prescribed for visitors--if anything, NPS personnel must be even more conservative. No permanent stove bases or fire rings, log rounds, hewn-log tables, nails in trees, or permanent fixtures of any kind will be allowed. If a camp is to be used for more than five days, a pit toilet with a temporary screen may be developed, but must be eliminated upon leaving the camp.

5.14.2.6. Administrative use of stock is necessary for many backcountry management and maintenance operations. Such use will comply with regulations governing visitor stock use. NPS stock users will avoid use of areas heavily frequented by visitor stock whenever possible.

5.14.2.7. NPS backcountry crews will go through an orientation program each year before going into the backcountry. The orientation will be to educate crew members on backcountry/wilderness management objectives and ethics and to their responsibilities as paid members of NPS management/maintenance crews.

5.14.2.8. NPS personnel will comply with all backcountry use guidelines, such as packing all garbage out, human waste disposal, etc.

5.14.3. Administrative Addendum

A National Park Service administrative addendum outlining detailed procedures and limitations for theses policies for NPS personnel working in the backcountry has been prepared. It provides further detail on the policies contained in this plan as it relates to administrative use of such things as helicopters, stock, structures, motorized trail maintenance equipment, etc. Each person who works in or supervises anyone else who works in the backcountry must be familiar with and operate according to the policies in that addendum.

5.14.4. Coordination With Other Agencies

Inyo, Sierra, and Sequoia National Forests issue permits for backcountry trips that start on Forest lands and continue into the Parks; there are many other common issues and dealings with various special interests. For these reasons a very close liaison will be continued with the above National Forests. Close coordination with Yosemite National Park will be maintained because the John Muir Trail and Pacific Crest Trail cross portions of both Parks, Sierra National Forest, and Inyo National Forest. Common interests are also shared with the Toiyabe and Stanislaus Forests. An annual coordinating meeting between backcountry managers of Sequoia, Kings Canyon, and Yosemite National Parks, and Sierra, Sequoia, Inyo, Toiyabe, and Stanislaus National Forests will be held in the fall prior to December to discuss the past and future season's operation.

5.15. Other Facilities

5.15.1. Management Objectives

To ensure that facilities used by other agencies or organizations that are located in the backcountry are compatible with backcountry/wilderness values.

5.15.2. Management Policies

5.15.2.1. Dams located in the Mineral King Valley were constructed long before the inclusion of Mineral King into the Park. The dams have been evaluated and a report and recommendations have been made to Congress on their effects on park values. Congress is presently considering legislation that will determine whether or not the dams will be allowed to remain.

5.15.2.2. Snow survey course markers and automatic electronic monitoring equipment stations are found at various locations in the backcountry. These facilities provide valuable data for evaluation of long-term effects of park uses and to various water-using entities and state agencies in the Valley. These facilities will remain in use. Over the long term, all snow courses should be converted to automatic electronic monitoring devices.

5.16. Scientific Study and Impact Monitoring

5.16.1. Management Objective

To provide for and encourage scientific study and monitoring that seeks to explain the natural functioning of backcountry ecosystems as well as the direct and indirect impacts of visitor use and management actions. To carry out studies unobtrusively and by means consistent with preservation of the backcountry resources and opportunity for solitude. Highest priority is given to research that will provide information required to develop and improve management programs intended to mitigate or avert losses of resources or degradation of ecosystem integrity.

5.16.2. Management Policies

These Parks are managed to preserve natural communities and thus serve as a large natural laboratory as a designated unit of the International Biosphere Reserve program.

-Scientific studies will be encouraged as long as they do not cause unacceptable impact on the natural resources or the experience of the visitor. Manipulative research may be permitted on a small scale when supported by an adequate justification. All research and monitoring projects must include a specific study plan which will be reviewed by the Research Scientist and/or Chief of Resources Management and District Ranger. These staff members will make recommendations on each proposal to the Superintendent whose approval is prerequisite to all such projects.

Adequate monitoring of resource impacts will be conducted to evaluate the effects of different types and intensities of administrative and visitor use.

-All equipment such as flagging, stakes, etc. will be removed following completion of a study unless their retention is specifically approved by the Superintendent.

-Collecting permits will be issued only for approved research or monitoring projects that address priorities identified in the Resources Management Plan.

-Long-term studies of natural communities and the effects of visitor use on them will be given high priority in developing a scientific study program.

-Research and monitoring needs will be identified in the Natural Resources Management Plan. Priority lists for new studies will be updated annually.

-Annual progress reports will be submitted by January 15 of each year for each research project carried out during the calendar year.

5.17. Updating/Modifying Management Objectives:

To establish a process by which the various elements of this Plan can be updated, modified, or corrected.

5.17.1. Management Policies

-Information from the backcountry impact monitoring program will be reviewed by the park staff as often as necessary, but at least annually.

-Based on that review, the park staff may propose to the Superintendent updating or modification of the Plan.

-Depending on the nature and significance of the update(s) or modification(s) of the Plan, public review and comment may be sought.

-The Superintendent will review proposals and make the final decision.

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## 7. ACKNOWLEDGMENTS

The development of this Plan was initiated in about 1979 and began with input from a citizen committee consisting of Don Bedell, Joe Fontaine, Chris De St. Croix, and Dr. David Hood. This committee made valuable input to the formulation of the objectives and policies that, for the most part, still remain in the completed Plan. Input from the High Sierra Packers and the High Sierra Stock Users Association was also very important in the preparation of the early drafts of the Plan.

The original drafts of the Plan were largely prepared by Larry Bancroft, Chief of Resource Management. During the last couple of years the Plan has been simplified, significantly abbreviated, and modified as a result of public review comments. This work was largely done by Marvin Jensen, Management Assistant and Paul Fodor, Sierra District Ranger. Significant contributions to the development of the Plan were made by other key staff members, including the other Park Division Chiefs, District Rangers, and other staff members.

## 8. APPENDICES

APPENDIX A

Trailhead Quotas

Daily Entry Limits for Individual Entry Points

West Side Trailheads

| Entry | Entry Limit | Max. Grp. Sz. |
|---|---|---|
| Franklin Pass | 30/day | 25 |
| Sawtooth Pass | 20/day | 15 |
| Glacier Pass | 15/day | 15 |
| Timber Gap | 25/day | 25 |
| Paradise Ridge | 15/day | 15 |
| Hockett/Atwell | 25/day | 25 |
| Tar Gap | 25/day | 25 |
| Eagle | 20/day | 15 |
| White Chief | 25/day | 25 |
| Mosquito/Mineral | 25/day | 25 |
| Lady Bug | 15/day | 15 |
| Garfield Grove | 15/day | 15 |
| Middle Fork, Kaweah | 25/day | 25 |
| Crescent Meadow | 30/day | 15 |
| Wolverton | 25/day | 25 |
| Pear Lake | 25/day | 15 |
| Twin Lakes/Silliman | 30/day | 15 |
| Redwood Canyon | 20/day | 10 |
| JO Pass | 15/day | 15 |
| Belle Canyon | 25/day | 25 |
| Sugarloaf | 25/day | 25 |
| Bubbs Creek | 30/day | 15 |
| Woods Creek | 30/day | 15 |
| Copper Creek | 20/day | 15 |
| Lewis Creek | 25/day | 25 |

Send application to:
Chief Ranger's Office
Sequoia and Kings Canyon
National Parks
Three Rivers, CA 93271

East Side And Other Trailheads

| Entry | Entry Limit |
|---|---|
| North Lake | 40/day |
| Lamarck/Wonder Lakes | 25/day |
| Sabrina Basin | 40/day |
| South Lake | 55/day |
| Taboose Pass | 15/day---60/week |
| Sawmill Pass | 15/day---60/week |
| Baxter Pass | 15/day---60/week |
| Kearsarge (O.V.) | 60/day |
| Shepherd Pass | 15/day---60/week |
| Whitney Portal | 50/day |
| Cottonwood Lakes | 60/day |
| Cottonwood Pass | 40/day |

Send application to:

White Mountain Ranger Station
798 North Main Street
Bishop, CA 93514

or

Mt. Whitney Ranger District
P. O. Box 8
Lone Pine, CA 93545

Trailheads From Northwest Through Sierra N.F.

| | |
|---|---|
| South Fork (Piute) | 72/day |
| Post Corral (Hell-For-Sure) | 75/day |
| Crown Valley | 25/day |
| Spanish Lks. (Geraldine Lakes) | 25/day |

Send application to:

Pineridge Ranger District
P. O. Box 300
Shaver Lake, CA 93664

Trailheads From South Through Sequoia National Forest
Send Application to;
Tule River Ranger District
32588 Highway 190
Porterville, Ca. 93257

## APPENDIX B

## BACKCOUNTRY CAMPING RESTRICTIONS

Rae Lakes Loop: One night camp limit at each camp area around Rae Lakes, Sixty Lakes Basin, Charlotte Lake, Dragon Lake, Dollar Lake, and the portion of the John Muir Trail from Woods Creek to Glen Pass.

In order to protect the bighorn sheep, all cross-country travel above 11,000' is prohibited east of the Muir Trail between Sawmill Pass and Dragon Pass.

Kearsarge Lakes: One night camp limit.

Bullfrog Lake: (In Kearsarge Basin) closed to all camping and grazing.

Timberline Lake: (West of Mt. Whitney) closed to all camping and grazing.

Heather Lake: Closed to all camping.

Hamilton Lakes: Two night camp limit. Gas stoves only.

Paradise Valley: One night camp limit

Maximum group size is 25 persons, and smaller groups are preferred. Group size is limited to one half the trailhead quota at: Bubbs Creek, Woods Creek, Twin Lakes/Silliman, Pear Lake, Crescent Meadow, and Redwood Canyon. Eagle Lake: No camping between the trail and the lake.

Mosquito Lake #1: No camping within 100' of lake shore.

Hockett Meadow: No camping between the trail and Whitman Creek.

## APPENDIX C

## FIRE CLOSURE SITES

Fires Gas stoves are strongly recommended in the high country. Use of wood for fires is prohibited in some areas due to environmental damage, both physical and esthetic, resulting from less than natural accumulations of dead wood, multiple fire rings, and blackened rocks. The standing dead snags are part of the natural beauty of the Sierra high country.

Wood and trash fires are prohibited above elevations listed below:

| | |
|---|---|
| Kaweah River Drainage (all forks) | 9,000' |
| Kings Canyon | 10,000' |
| Kern Canyon | 11,200' |

Exceptions: At Hamilton Lakes (which is below 9,000 feet) wood fires are PROHIBITED.
Granite Basin--wood fires prohibited.

## APPENDIX D

## CAMPING ACTIVITIES ALLOWED IN SEQUOIA GROVES

The attached list represents "wilderness" sequoia groves and whether or not camping and fires is allowed. Criteria used combined possibilities for prime day use areas, existing use patterns, and potential fire hazards. Fires are not allowed in most groves at the present time. As unnatural fuels accumulations are reduced through the fire management program additional groves may be opened to use of camping related fires.

| Grove | Camping | Wood Fires |
|---|---|---|
| Oriole Lake | yes | no |
| East Fork | yes | no |
| Redwood Mountain | yes | no |
| Big Springs | yes | no |
| Garfield | yes | yes |
| Castle Creek | yes | no |
| Cahoon Creek | yes | no |
| Horse Creek | yes | no |
| Redwood Meadow | yes | no |
| Eden Creek | yes | no |
| Cedar Flat | yes | no |
| Dennison | yes | no |
| Devils Canyon | yes | no |
| South Fork | yes | no |
| Muir | no | no |
| Pine Ridge | yes | no |
| Skagway | yes | no |
| Suwanee | no | no |

## APPENDIX E

### MINIMUM DISTANCE FROM TRAILHEADS FOR OVERNIGHT CAMPING

Backcountry visitors must travel at least the distances prescribed below for each trail before camping.

| AREA | TRAIL | FIRST CAMP | DISTANCE |
|---|---|---|---|
| Lodgepole | Lakes | Emerald Lake | 5 miles |
| | Twin Lakes | Cahoon Meadow | 3 miles |
| | Crescent Meadow | Panther Creek | 3 miles |
| | Wolverton | Panther Gap | 3 miles |
| Cedar Grove | Woods Creek | Paradise Valley | 7 miles |
| | Bubbs Creek | Sphinx Creek | 4 miles |
| | Lewis Creek | Comb Creek | 4 miles |
| | Copper Creek | Lower Tent | 3.6 miles |
| South Fork | South Fork | Lady Bug | 4 miles |
| | Garfield Grove | Garfield | 4 miles |
| Mineral King | Eagle/Mosquito | White Chief Bowl | 4miles |
| | | Eagle Lake | 3.4 miles |
| | | Mosquito #2 | 4 miles |
| | Franklin | Farewell Junction | 4 miles |
| | Sawtooth | Ground Hog | 1 mile |
| | Timber Gap | Timber Gap | 4 miles |
| | Tar Gap | Deer Creek | 4 miles |
| | Hockett | Clover Creek | 6 miles |

## APPENDIX F
## BRIDGES

| Name | Location |
|---|---|
| Kern River Trail | Lewis Camp |
| | Big Arroyo Creek (2) |
| | Kern Hot Springs |
| High Sierra Trail | Buck Creek |
| | Lone Pine Creek |
| Middle Fork Kaweah | Granite Creek |
| Hockett Trail | East Fork Crossing |
| Hockett Meadow | Tuohy Cut-off (3) |
| South Fork Kings | Upper Paradise (foot log) |
| Bubbs Creek Trail | South Fork Junction (4) |
| | Sphinx Creek |
| John Muir Trail | Piute Creek |
| | San Joaquin (2) |
| | LeConte |
| | Palisades Creek |
| | Woods Creek Crossing (foot log) |
| East Creek | Below East Lake |
| Middle Fork Kings | Cartridge Creek |
| | Simpson Meadow (foot bridge) |
| Dusy Basin Trail | Dusy Branch |
| Roaring River | Ranger Station |

## APPENDIX G

Designated Backcountry Campsites

Designated or existing campsites should be used at the following places:

Bearpaw
Pear Lake
Emerald Lake
Paradise Valley
Eagle Lake
Lower Mosquito Lake
Kern Hot Springs
Upper Funston
Lower Funston
Summit Lake
Evelyn Lake
Hockett Meadow